

## Clementine Dulieu

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**From:** Clementine Dulieu  
**Sent:** Friday, May 10, 2019 6:02 PM  
**To:** lhansen@wayland.ma.us  
**Cc:** Larry Mastera; Julia Redden  
**Subject:** Wayland Property Owner Data Transmittal - April 2019  
**Attachments:** ERM Lab Report\_April 2019.pdf; IESI Lab Report\_April 2019.pdf; Conserv Com BWSC-123 Form.pdf

Hi Linda,

ERM and Innovative Engineering Solutions, Inc. (IESI) collected groundwater samples from monitoring wells located on Conservation Commission property at the former Raytheon Facility (the "Site") located at 430 Boston Post Road in Wayland, MA in April 2019. The analytical results and BWSC-123 form are attached to this email.

These results are being sent via email for the Conservation Commission's records.

Please let me know if you have any questions or require any additional information.

Thanks,

Clementine Dulieu  
Project Geologist

**ERM**

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**NOTICE OF ENVIRONMENTAL SAMPLING**

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

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**A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):**

1. Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_

**B. This notice is being provided to the following party:**

1. Name: \_\_\_\_\_  
2. Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_

**C. This notice is being given to inform its recipient (the party listed in Section B):**

- 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

**D. Location of the property where the environmental sampling will be/has been conducted:**

1. Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_

2. MCP phase of work during which the sampling will be/has been conducted:

Immediate Response Action	Phase III Feasibility Evaluation
Release Abatement Measure	Phase IV Remedy Implementation Plan
Utility-related Abatement Measure	Phase V/Remedy Operation Status
Phase I Initial Site Investigation	Post-Temporary Solution Operation, Maintenance and Monitoring
Phase II Comprehensive Site Assessment	Other _____

(specify)

3. Description of property where sampling will be/has been conducted:  
residential      commercial      industrial      school/playground      Other \_\_\_\_\_  
(specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

**E. Contact information related to the party providing this notice:**

Contact Name: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: \_\_\_\_\_



**Massachusetts Department of Environmental Protection**  
*Bureau of Waste Site Cleanup*

**BWSC123**

This Notice is Related to:  
Release Tracking Number

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**NOTICE OF ENVIRONMENTAL SAMPLING**

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

**Section C** on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

**Section D** on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/eea/agencies/massdep/cleanup>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://public.dep.state.ma.us/SearchableSites2/Search.aspx> to view site-specific files on-line or <http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html> if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

## ANALYTICAL REPORT

Eurofins TestAmerica, Nashville  
2960 Foster Creighton Drive  
Nashville, TN 37204  
Tel: (615)726-0177

Laboratory Job ID: 490-171844-1  
Client Project/Site: IDS Wayland

For:  
ERM-Northeast  
One Beacon Steet  
5th Floor  
Boston, Massachusetts 02108

Attn: Lyndsey Colburn



Authorized for release by:  
4/12/2019 3:53:56 PM

Becky Mason, Project Manager II  
(413)572-4000  
[becky.mason@testamericainc.com](mailto:becky.mason@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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# Definitions/Glossary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## MassDEP Analytical Protocol Certification Form

Laboratory Name: **TestAmerica Nashville** Project #: **490-171844-1**

Project Location: **Wayland MA** RTN:

**This form provides certifications for the data set for the following Laboratory Sample ID Number(s):**  
**480-171844-1[1-5]**

Matrices:  Groundwater/Surface Water  Soil/Sediment  Drinking Water  Air  Other:

### CAM Protocols (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	Mass DEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	Mass DEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	Mass DEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9012 / 9014/ 4500CN Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

### Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

### Responses to Questions G, H and I below are required for "Presumptive Certainty" status


<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
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**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350**

<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.**

Signature:  Position: Project Manager

Printed Name: Becky Mason Date: 4/12/19 15:51

This form has been electronically signed and approved

# Case Narrative

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

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## Job ID: 490-171844-1

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### Laboratory: Eurofins TestAmerica, Nashville

#### Narrative

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#### Job Narrative 490-171844-1

#### Receipt

The samples were received on 4/10/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

#### GC/MS VOA

Method 8260C: With the exception of diluted samples, per question G on the MassDEP Analytical Protocol Certification Form, TestAmerica's routine reporting limits do not achieve the CAM reporting limits specified in this CAM protocol for 1,2-dibromo-3-chloropropane, Carbon Disulfide, Isopropyl Ether, Naphthalene, tert-Amyl Methyl Ether and Tetrahydrofuran.

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCS-D) for batch 490-587193 recovered outside control limits but were greater than 10% for the following analytes: Bromoform and Chloromethane . MCP protocol allows for 10% of the target compounds to be outside of the limits provided the recoveries are over 10%. The following samples are impacted: SEN-1M-20190405-01 (490-171844-1), SEN-1D-20190405-01 (490-171844-2), SEN-2M-20190405-01 (490-171844-3), SEN-2D-20190405-01 (490-171844-4) and SEN-3-20190405-01 (490-171844-5).

Method 8260C: The continuing calibration verification (CCV) associated with batch 490-587193 recovered above the upper control limit for Vinyl Chloride, Acetone, 2-Hexanone, 1,2,3-Trichloropropane, Chloromethane, N-propylbenzene, Dichlorodifluoromethane, 1,1,1,2-Tetrachloroethane, trans-1,3-Dichloropropene, 1,2-Dibromo-3-Chloropropane and Bromoform. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: SEN-1M-20190405-01 (490-171844-1), SEN-1D-20190405-01 (490-171844-2), SEN-2M-20190405-01 (490-171844-3), SEN-2D-20190405-01 (490-171844-4) and SEN-3-20190405-01 (490-171844-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-1M-20190405-01**

**Lab Sample ID: 490-171844-1**

No Detections.

**Client Sample ID: SEN-1D-20190405-01**

**Lab Sample ID: 490-171844-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	2.2		1.0		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	7.5		1.0		ug/L	1		8260C	Total/NA
Ethyl ether	7.8		5.0		ug/L	1		8260C	Total/NA

**Client Sample ID: SEN-2M-20190405-01**

**Lab Sample ID: 490-171844-3**

No Detections.

**Client Sample ID: SEN-2D-20190405-01**

**Lab Sample ID: 490-171844-4**

No Detections.

**Client Sample ID: SEN-3-20190405-01**

**Lab Sample ID: 490-171844-5**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Nashville



# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-1M-20190405-01**

**Lab Sample ID: 490-171844-1**

Date Collected: 04/05/19 16:45

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 00:46	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/19 00:46	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 00:46	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/19 00:46	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/19 00:46	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/19 00:46	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/19 00:46	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/19 00:46	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/19 00:46	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/19 00:46	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			04/11/19 00:46	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/19 00:46	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/19 00:46	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/19 00:46	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/19 00:46	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/19 00:46	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/19 00:46	1
1,4-Dioxane	ND		200		ug/L			04/11/19 00:46	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/19 00:46	1
2-Butanone (MEK)	ND		50		ug/L			04/11/19 00:46	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/19 00:46	1
2-Hexanone	ND		10		ug/L			04/11/19 00:46	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/19 00:46	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/19 00:46	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/11/19 00:46	1
Acetone	ND		25		ug/L			04/11/19 00:46	1
Benzene	ND		1.0		ug/L			04/11/19 00:46	1
Bromobenzene	ND		1.0		ug/L			04/11/19 00:46	1
Bromoform	ND *		1.0		ug/L			04/11/19 00:46	1
Bromomethane	ND		1.0		ug/L			04/11/19 00:46	1
Carbon disulfide	ND		1.0		ug/L			04/11/19 00:46	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/19 00:46	1
Chlorobenzene	ND		1.0		ug/L			04/11/19 00:46	1
Chlorobromomethane	ND		1.0		ug/L			04/11/19 00:46	1
Chlorodibromomethane	ND		1.0		ug/L			04/11/19 00:46	1
Chloroethane	ND		1.0		ug/L			04/11/19 00:46	1
Chloroform	ND		1.0		ug/L			04/11/19 00:46	1
Chloromethane	ND *		1.0		ug/L			04/11/19 00:46	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 00:46	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 00:46	1
Dibromomethane	ND		1.0		ug/L			04/11/19 00:46	1
Dichlorobromomethane	ND		1.0		ug/L			04/11/19 00:46	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/11/19 00:46	1
Ethyl ether	ND		5.0		ug/L			04/11/19 00:46	1
Ethylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
Ethylene Dibromide	ND		1.0		ug/L			04/11/19 00:46	1
Hexachlorobutadiene	ND		2.0		ug/L			04/11/19 00:46	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-1M-20190405-01**

**Lab Sample ID: 490-171844-1**

Date Collected: 04/05/19 16:45

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		2.0		ug/L			04/11/19 00:46	1
Isopropylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/19 00:46	1
Methylene Chloride	ND		5.0		ug/L			04/11/19 00:46	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/11/19 00:46	1
Naphthalene	ND		5.0		ug/L			04/11/19 00:46	1
n-Butylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
N-Propylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
o-Xylene	ND		1.0		ug/L			04/11/19 00:46	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
Styrene	ND		1.0		ug/L			04/11/19 00:46	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/19 00:46	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/19 00:46	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/19 00:46	1
Tetrachloroethene	ND		1.0		ug/L			04/11/19 00:46	1
Tetrahydrofuran	ND		10		ug/L			04/11/19 00:46	1
Toluene	ND		1.0		ug/L			04/11/19 00:46	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 00:46	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 00:46	1
Trichloroethene	ND		1.0		ug/L			04/11/19 00:46	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/19 00:46	1
Vinyl chloride	ND		1.0		ug/L			04/11/19 00:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	88		70 - 130		04/11/19 00:46	1
1,2-Dichloroethane-d4 (Surr)	91		70 - 130		04/11/19 00:46	1
4-Bromofluorobenzene (Surr)	101		70 - 130		04/11/19 00:46	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-1D-20190405-01**

**Lab Sample ID: 490-171844-2**

Date Collected: 04/05/19 16:38

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 01:12	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/19 01:12	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 01:12	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/19 01:12	1
<b>1,1-Dichloroethane</b>	<b>2.2</b>		1.0		ug/L			04/11/19 01:12	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/19 01:12	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/19 01:12	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/19 01:12	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/19 01:12	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/19 01:12	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			04/11/19 01:12	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/19 01:12	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/19 01:12	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/19 01:12	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/19 01:12	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/19 01:12	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/19 01:12	1
1,4-Dioxane	ND		200		ug/L			04/11/19 01:12	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/19 01:12	1
2-Butanone (MEK)	ND		50		ug/L			04/11/19 01:12	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/19 01:12	1
2-Hexanone	ND		10		ug/L			04/11/19 01:12	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/19 01:12	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/19 01:12	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/11/19 01:12	1
Acetone	ND		25		ug/L			04/11/19 01:12	1
Benzene	ND		1.0		ug/L			04/11/19 01:12	1
Bromobenzene	ND		1.0		ug/L			04/11/19 01:12	1
Bromoform	ND *		1.0		ug/L			04/11/19 01:12	1
Bromomethane	ND		1.0		ug/L			04/11/19 01:12	1
Carbon disulfide	ND		1.0		ug/L			04/11/19 01:12	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/19 01:12	1
Chlorobenzene	ND		1.0		ug/L			04/11/19 01:12	1
Chlorobromomethane	ND		1.0		ug/L			04/11/19 01:12	1
Chlorodibromomethane	ND		1.0		ug/L			04/11/19 01:12	1
Chloroethane	ND		1.0		ug/L			04/11/19 01:12	1
Chloroform	ND		1.0		ug/L			04/11/19 01:12	1
Chloromethane	ND *		1.0		ug/L			04/11/19 01:12	1
<b>cis-1,2-Dichloroethene</b>	<b>7.5</b>		1.0		ug/L			04/11/19 01:12	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 01:12	1
Dibromomethane	ND		1.0		ug/L			04/11/19 01:12	1
Dichlorobromomethane	ND		1.0		ug/L			04/11/19 01:12	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/11/19 01:12	1
<b>Ethyl ether</b>	<b>7.8</b>		5.0		ug/L			04/11/19 01:12	1
Ethylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
Ethylene Dibromide	ND		1.0		ug/L			04/11/19 01:12	1
Hexachlorobutadiene	ND		2.0		ug/L			04/11/19 01:12	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-1D-20190405-01**

**Lab Sample ID: 490-171844-2**

Date Collected: 04/05/19 16:38

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		2.0		ug/L			04/11/19 01:12	1
Isopropylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/19 01:12	1
Methylene Chloride	ND		5.0		ug/L			04/11/19 01:12	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/11/19 01:12	1
Naphthalene	ND		5.0		ug/L			04/11/19 01:12	1
n-Butylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
N-Propylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
o-Xylene	ND		1.0		ug/L			04/11/19 01:12	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
Styrene	ND		1.0		ug/L			04/11/19 01:12	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/19 01:12	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/19 01:12	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/19 01:12	1
Tetrachloroethene	ND		1.0		ug/L			04/11/19 01:12	1
Tetrahydrofuran	ND		10		ug/L			04/11/19 01:12	1
Toluene	ND		1.0		ug/L			04/11/19 01:12	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 01:12	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 01:12	1
Trichloroethene	ND		1.0		ug/L			04/11/19 01:12	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/19 01:12	1
Vinyl chloride	ND		1.0		ug/L			04/11/19 01:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	88		70 - 130		04/11/19 01:12	1
1,2-Dichloroethane-d4 (Surr)	88		70 - 130		04/11/19 01:12	1
4-Bromofluorobenzene (Surr)	104		70 - 130		04/11/19 01:12	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-2M-20190405-01**

**Lab Sample ID: 490-171844-3**

Date Collected: 04/05/19 16:08

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 01:39	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/19 01:39	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 01:39	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/19 01:39	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/19 01:39	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/19 01:39	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/19 01:39	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/19 01:39	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/19 01:39	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/19 01:39	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			04/11/19 01:39	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/19 01:39	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/19 01:39	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/19 01:39	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/19 01:39	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/19 01:39	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/19 01:39	1
1,4-Dioxane	ND		200		ug/L			04/11/19 01:39	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/19 01:39	1
2-Butanone (MEK)	ND		50		ug/L			04/11/19 01:39	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/19 01:39	1
2-Hexanone	ND		10		ug/L			04/11/19 01:39	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/19 01:39	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/19 01:39	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/11/19 01:39	1
Acetone	ND		25		ug/L			04/11/19 01:39	1
Benzene	ND		1.0		ug/L			04/11/19 01:39	1
Bromobenzene	ND		1.0		ug/L			04/11/19 01:39	1
Bromoform	ND *		1.0		ug/L			04/11/19 01:39	1
Bromomethane	ND		1.0		ug/L			04/11/19 01:39	1
Carbon disulfide	ND		1.0		ug/L			04/11/19 01:39	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/19 01:39	1
Chlorobenzene	ND		1.0		ug/L			04/11/19 01:39	1
Chlorobromomethane	ND		1.0		ug/L			04/11/19 01:39	1
Chlorodibromomethane	ND		1.0		ug/L			04/11/19 01:39	1
Chloroethane	ND		1.0		ug/L			04/11/19 01:39	1
Chloroform	ND		1.0		ug/L			04/11/19 01:39	1
Chloromethane	ND *		1.0		ug/L			04/11/19 01:39	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 01:39	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 01:39	1
Dibromomethane	ND		1.0		ug/L			04/11/19 01:39	1
Dichlorobromomethane	ND		1.0		ug/L			04/11/19 01:39	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/11/19 01:39	1
Ethyl ether	ND		5.0		ug/L			04/11/19 01:39	1
Ethylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
Ethylene Dibromide	ND		1.0		ug/L			04/11/19 01:39	1
Hexachlorobutadiene	ND		2.0		ug/L			04/11/19 01:39	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-2M-20190405-01**

**Lab Sample ID: 490-171844-3**

Date Collected: 04/05/19 16:08

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		2.0		ug/L			04/11/19 01:39	1
Isopropylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/19 01:39	1
Methylene Chloride	ND		5.0		ug/L			04/11/19 01:39	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/11/19 01:39	1
Naphthalene	ND		5.0		ug/L			04/11/19 01:39	1
n-Butylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
N-Propylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
o-Xylene	ND		1.0		ug/L			04/11/19 01:39	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
Styrene	ND		1.0		ug/L			04/11/19 01:39	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/19 01:39	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/19 01:39	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/19 01:39	1
Tetrachloroethene	ND		1.0		ug/L			04/11/19 01:39	1
Tetrahydrofuran	ND		10		ug/L			04/11/19 01:39	1
Toluene	ND		1.0		ug/L			04/11/19 01:39	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 01:39	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 01:39	1
Trichloroethene	ND		1.0		ug/L			04/11/19 01:39	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/19 01:39	1
Vinyl chloride	ND		1.0		ug/L			04/11/19 01:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	83		70 - 130		04/11/19 01:39	1
1,2-Dichloroethane-d4 (Surr)	90		70 - 130		04/11/19 01:39	1
4-Bromofluorobenzene (Surr)	105		70 - 130		04/11/19 01:39	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-2D-20190405-01**

**Lab Sample ID: 490-171844-4**

Date Collected: 04/05/19 16:20

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 02:06	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/19 02:06	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 02:06	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/19 02:06	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/19 02:06	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/19 02:06	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/19 02:06	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/19 02:06	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/19 02:06	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/19 02:06	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			04/11/19 02:06	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/19 02:06	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/19 02:06	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/19 02:06	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/19 02:06	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/19 02:06	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/19 02:06	1
1,4-Dioxane	ND		200		ug/L			04/11/19 02:06	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/19 02:06	1
2-Butanone (MEK)	ND		50		ug/L			04/11/19 02:06	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/19 02:06	1
2-Hexanone	ND		10		ug/L			04/11/19 02:06	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/19 02:06	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/19 02:06	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/11/19 02:06	1
Acetone	ND		25		ug/L			04/11/19 02:06	1
Benzene	ND		1.0		ug/L			04/11/19 02:06	1
Bromobenzene	ND		1.0		ug/L			04/11/19 02:06	1
Bromoform	ND *		1.0		ug/L			04/11/19 02:06	1
Bromomethane	ND		1.0		ug/L			04/11/19 02:06	1
Carbon disulfide	ND		1.0		ug/L			04/11/19 02:06	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/19 02:06	1
Chlorobenzene	ND		1.0		ug/L			04/11/19 02:06	1
Chlorobromomethane	ND		1.0		ug/L			04/11/19 02:06	1
Chlorodibromomethane	ND		1.0		ug/L			04/11/19 02:06	1
Chloroethane	ND		1.0		ug/L			04/11/19 02:06	1
Chloroform	ND		1.0		ug/L			04/11/19 02:06	1
Chloromethane	ND *		1.0		ug/L			04/11/19 02:06	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 02:06	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 02:06	1
Dibromomethane	ND		1.0		ug/L			04/11/19 02:06	1
Dichlorobromomethane	ND		1.0		ug/L			04/11/19 02:06	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/11/19 02:06	1
Ethyl ether	ND		5.0		ug/L			04/11/19 02:06	1
Ethylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
Ethylene Dibromide	ND		1.0		ug/L			04/11/19 02:06	1
Hexachlorobutadiene	ND		2.0		ug/L			04/11/19 02:06	1



# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-2D-20190405-01**

**Lab Sample ID: 490-171844-4**

Date Collected: 04/05/19 16:20

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		2.0		ug/L			04/11/19 02:06	1
Isopropylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/19 02:06	1
Methylene Chloride	ND		5.0		ug/L			04/11/19 02:06	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/11/19 02:06	1
Naphthalene	ND		5.0		ug/L			04/11/19 02:06	1
n-Butylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
N-Propylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
o-Xylene	ND		1.0		ug/L			04/11/19 02:06	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
Styrene	ND		1.0		ug/L			04/11/19 02:06	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/19 02:06	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/19 02:06	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/19 02:06	1
Tetrachloroethene	ND		1.0		ug/L			04/11/19 02:06	1
Tetrahydrofuran	ND		10		ug/L			04/11/19 02:06	1
Toluene	ND		1.0		ug/L			04/11/19 02:06	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 02:06	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 02:06	1
Trichloroethene	ND		1.0		ug/L			04/11/19 02:06	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/19 02:06	1
Vinyl chloride	ND		1.0		ug/L			04/11/19 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	84		70 - 130		04/11/19 02:06	1
1,2-Dichloroethane-d4 (Surr)	90		70 - 130		04/11/19 02:06	1
4-Bromofluorobenzene (Surr)	105		70 - 130		04/11/19 02:06	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-3-20190405-01**

**Lab Sample ID: 490-171844-5**

Date Collected: 04/05/19 15:52

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 02:32	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/19 02:32	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 02:32	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/19 02:32	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/19 02:32	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/19 02:32	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/19 02:32	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/19 02:32	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/19 02:32	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/19 02:32	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			04/11/19 02:32	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/19 02:32	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/19 02:32	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/19 02:32	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/19 02:32	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/19 02:32	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/19 02:32	1
1,4-Dioxane	ND		200		ug/L			04/11/19 02:32	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/19 02:32	1
2-Butanone (MEK)	ND		50		ug/L			04/11/19 02:32	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/19 02:32	1
2-Hexanone	ND		10		ug/L			04/11/19 02:32	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/19 02:32	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/19 02:32	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/11/19 02:32	1
Acetone	ND		25		ug/L			04/11/19 02:32	1
Benzene	ND		1.0		ug/L			04/11/19 02:32	1
Bromobenzene	ND		1.0		ug/L			04/11/19 02:32	1
Bromoform	ND	*	1.0		ug/L			04/11/19 02:32	1
Bromomethane	ND		1.0		ug/L			04/11/19 02:32	1
Carbon disulfide	ND		1.0		ug/L			04/11/19 02:32	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/19 02:32	1
Chlorobenzene	ND		1.0		ug/L			04/11/19 02:32	1
Chlorobromomethane	ND		1.0		ug/L			04/11/19 02:32	1
Chlorodibromomethane	ND		1.0		ug/L			04/11/19 02:32	1
Chloroethane	ND		1.0		ug/L			04/11/19 02:32	1
Chloroform	ND		1.0		ug/L			04/11/19 02:32	1
Chloromethane	ND	*	1.0		ug/L			04/11/19 02:32	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 02:32	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 02:32	1
Dibromomethane	ND		1.0		ug/L			04/11/19 02:32	1
Dichlorobromomethane	ND		1.0		ug/L			04/11/19 02:32	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/11/19 02:32	1
Ethyl ether	ND		5.0		ug/L			04/11/19 02:32	1
Ethylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
Ethylene Dibromide	ND		1.0		ug/L			04/11/19 02:32	1
Hexachlorobutadiene	ND		2.0		ug/L			04/11/19 02:32	1

# Client Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-3-20190405-01**

**Lab Sample ID: 490-171844-5**

Date Collected: 04/05/19 15:52

Matrix: Water

Date Received: 04/10/19 09:10

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		2.0		ug/L			04/11/19 02:32	1
Isopropylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/19 02:32	1
Methylene Chloride	ND		5.0		ug/L			04/11/19 02:32	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/11/19 02:32	1
Naphthalene	ND		5.0		ug/L			04/11/19 02:32	1
n-Butylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
N-Propylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
o-Xylene	ND		1.0		ug/L			04/11/19 02:32	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
Styrene	ND		1.0		ug/L			04/11/19 02:32	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/19 02:32	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/19 02:32	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/19 02:32	1
Tetrachloroethene	ND		1.0		ug/L			04/11/19 02:32	1
Tetrahydrofuran	ND		10		ug/L			04/11/19 02:32	1
Toluene	ND		1.0		ug/L			04/11/19 02:32	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 02:32	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 02:32	1
Trichloroethene	ND		1.0		ug/L			04/11/19 02:32	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/19 02:32	1
Vinyl chloride	ND		1.0		ug/L			04/11/19 02:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	86		70 - 130		04/11/19 02:32	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		04/11/19 02:32	1
4-Bromofluorobenzene (Surr)	107		70 - 130		04/11/19 02:32	1

# Surrogate Summary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL	DCA	BFB
		(70-130)	(70-130)	(70-130)
490-171844-1	SEN-1M-20190405-01	88	91	101
490-171844-2	SEN-1D-20190405-01	88	88	104
490-171844-3	SEN-2M-20190405-01	83	90	105
490-171844-4	SEN-2D-20190405-01	84	90	105
490-171844-5	SEN-3-20190405-01	86	92	107
LCS 490-587193/3	Lab Control Sample	87	86	110
LCSD 490-587193/4	Lab Control Sample Dup	86	84	106
MB 490-587193/6	Method Blank	83	91	104

### Surrogate Legend

TOL = Toluene-d8 (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-587193/6

Matrix: Water

Analysis Batch: 587193

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 00:20	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/19 00:20	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			04/11/19 00:20	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/19 00:20	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/19 00:20	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/19 00:20	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/19 00:20	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/19 00:20	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/19 00:20	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/19 00:20	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			04/11/19 00:20	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/19 00:20	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/19 00:20	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/19 00:20	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/19 00:20	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/19 00:20	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/19 00:20	1
1,4-Dioxane	ND		200		ug/L			04/11/19 00:20	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/19 00:20	1
2-Butanone (MEK)	ND		50		ug/L			04/11/19 00:20	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/19 00:20	1
2-Hexanone	ND		10		ug/L			04/11/19 00:20	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/19 00:20	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/19 00:20	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/11/19 00:20	1
Acetone	ND		25		ug/L			04/11/19 00:20	1
Benzene	ND		1.0		ug/L			04/11/19 00:20	1
Bromobenzene	ND		1.0		ug/L			04/11/19 00:20	1
Bromoform	ND		1.0		ug/L			04/11/19 00:20	1
Bromomethane	ND		1.0		ug/L			04/11/19 00:20	1
Carbon disulfide	ND		1.0		ug/L			04/11/19 00:20	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/19 00:20	1
Chlorobenzene	ND		1.0		ug/L			04/11/19 00:20	1
Chlorobromomethane	ND		1.0		ug/L			04/11/19 00:20	1
Chlorodibromomethane	ND		1.0		ug/L			04/11/19 00:20	1
Chloroethane	ND		1.0		ug/L			04/11/19 00:20	1
Chloroform	ND		1.0		ug/L			04/11/19 00:20	1
Chloromethane	ND		1.0		ug/L			04/11/19 00:20	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 00:20	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 00:20	1
Dibromomethane	ND		1.0		ug/L			04/11/19 00:20	1
Dichlorobromomethane	ND		1.0		ug/L			04/11/19 00:20	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/11/19 00:20	1
Ethyl ether	ND		5.0		ug/L			04/11/19 00:20	1
Ethylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
Ethylene Dibromide	ND		1.0		ug/L			04/11/19 00:20	1

# QC Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 490-587193/6

Matrix: Water

Analysis Batch: 587193

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Hexachlorobutadiene	ND		2.0		ug/L			04/11/19 00:20	1
Isopropyl ether	ND		2.0		ug/L			04/11/19 00:20	1
Isopropylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/19 00:20	1
Methylene Chloride	ND		5.0		ug/L			04/11/19 00:20	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/11/19 00:20	1
Naphthalene	ND		5.0		ug/L			04/11/19 00:20	1
n-Butylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
N-Propylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
o-Xylene	ND		1.0		ug/L			04/11/19 00:20	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
Styrene	ND		1.0		ug/L			04/11/19 00:20	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/19 00:20	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/19 00:20	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/19 00:20	1
Tetrachloroethene	ND		1.0		ug/L			04/11/19 00:20	1
Tetrahydrofuran	ND		10		ug/L			04/11/19 00:20	1
Toluene	ND		1.0		ug/L			04/11/19 00:20	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/19 00:20	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			04/11/19 00:20	1
Trichloroethene	ND		1.0		ug/L			04/11/19 00:20	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/19 00:20	1
Vinyl chloride	ND		1.0		ug/L			04/11/19 00:20	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	83		70 - 130		04/11/19 00:20	1
1,2-Dichloroethane-d4 (Surr)	91		70 - 130		04/11/19 00:20	1
4-Bromofluorobenzene (Surr)	104		70 - 130		04/11/19 00:20	1

Lab Sample ID: LCS 490-587193/3

Matrix: Water

Analysis Batch: 587193

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	20.0	19.1		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	20.0	26.0		ug/L		130	70 - 130
1,1,2-Trichloroethane	20.0	19.6		ug/L		98	70 - 130
1,1-Dichloroethane	20.0	19.8		ug/L		99	70 - 130
1,1-Dichloroethene	20.0	19.6		ug/L		98	70 - 130
1,1-Dichloropropene	20.0	19.2		ug/L		96	70 - 130
1,2,3-Trichlorobenzene	20.0	22.1		ug/L		111	70 - 130
1,2,3-Trichloropropane	20.0	24.0		ug/L		120	70 - 130
1,2,4-Trichlorobenzene	20.0	24.2		ug/L		121	70 - 130
1,2,4-Trimethylbenzene	20.0	22.8		ug/L		114	70 - 130
1,2-Dibromo-3-Chloropropane	20.0	24.4		ug/L		122	70 - 130
1,2-Dichlorobenzene	20.0	23.5		ug/L		118	70 - 130
1,2-Dichloroethane	20.0	16.6		ug/L		83	70 - 130

Eurofins TestAmerica, Nashville

# QC Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-587193/3

Matrix: Water

Analysis Batch: 587193

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	20.0	20.1		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	20.0	20.9		ug/L		105	70 - 130
1,3-Dichlorobenzene	20.0	22.4		ug/L		112	70 - 130
1,3-Dichloropropane	20.0	20.4		ug/L		102	70 - 130
1,4-Dichlorobenzene	20.0	20.5		ug/L		103	70 - 130
1,4-Dioxane	400	406		ug/L		102	70 - 130
2,2-Dichloropropane	20.0	18.6		ug/L		93	70 - 130
2-Butanone (MEK)	100	108		ug/L		108	70 - 130
2-Chlorotoluene	20.0	22.1		ug/L		110	70 - 130
2-Hexanone	100	126		ug/L		126	70 - 130
4-Chlorotoluene	20.0	21.3		ug/L		107	70 - 130
4-Isopropyltoluene	20.0	22.0		ug/L		110	70 - 130
4-Methyl-2-pentanone (MIBK)	100	109		ug/L		109	70 - 130
Acetone	100	118		ug/L		118	70 - 130
Benzene	20.0	20.9		ug/L		105	70 - 130
Bromobenzene	20.0	23.6		ug/L		118	70 - 130
Bromoform	20.0	31.4	*	ug/L		157	70 - 130
Bromomethane	20.0	23.7		ug/L		118	70 - 130
Carbon disulfide	20.0	22.8		ug/L		114	70 - 130
Carbon tetrachloride	20.0	19.5		ug/L		98	70 - 130
Chlorobenzene	20.0	20.7		ug/L		103	70 - 130
Chlorobromomethane	20.0	20.5		ug/L		102	70 - 130
Chlorodibromomethane	20.0	20.6		ug/L		103	70 - 130
Chloroethane	20.0	21.5		ug/L		107	70 - 130
Chloroform	20.0	19.0		ug/L		95	70 - 130
Chloromethane	20.0	26.6	*	ug/L		133	70 - 130
cis-1,2-Dichloroethene	20.0	19.3		ug/L		97	70 - 130
cis-1,3-Dichloropropene	20.0	21.5		ug/L		108	70 - 130
Dibromomethane	20.0	20.0		ug/L		100	70 - 130
Dichlorobromomethane	20.0	20.0		ug/L		100	70 - 130
Dichlorodifluoromethane	20.0	25.5		ug/L		128	70 - 130
Ethyl ether	20.0	23.0		ug/L		115	70 - 130
Ethylbenzene	20.0	21.6		ug/L		108	70 - 130
Ethylene Dibromide	20.0	22.5		ug/L		112	70 - 130
Hexachlorobutadiene	20.0	20.0		ug/L		100	70 - 130
Isopropyl ether	20.0	22.6		ug/L		113	70 - 130
Isopropylbenzene	20.0	21.8		ug/L		109	70 - 130
Methyl tert-butyl ether	20.0	20.2		ug/L		101	70 - 130
Methylene Chloride	20.0	20.6		ug/L		103	70 - 130
m-Xylene & p-Xylene	20.0	21.8		ug/L		109	70 - 130
Naphthalene	20.0	22.7		ug/L		113	70 - 130
n-Butylbenzene	20.0	21.7		ug/L		108	70 - 130
N-Propylbenzene	20.0	24.9		ug/L		125	70 - 130
o-Xylene	20.0	21.6		ug/L		108	70 - 130
sec-Butylbenzene	20.0	22.6		ug/L		113	70 - 130
Styrene	20.0	21.3		ug/L		106	70 - 130
Tert-amyl methyl ether	20.0	20.0		ug/L		100	70 - 130
Tert-butyl ethyl ether	20.0	20.7		ug/L		104	70 - 130
tert-Butylbenzene	20.0	22.1		ug/L		110	70 - 130

Eurofins TestAmerica, Nashville

# QC Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-587193/3

Matrix: Water

Analysis Batch: 587193

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	20.0	18.5		ug/L		92	70 - 130
Tetrahydrofuran	40.0	44.4		ug/L		111	70 - 130
Toluene	20.0	18.6		ug/L		93	70 - 130
trans-1,2-Dichloroethene	20.0	19.3		ug/L		97	70 - 130
trans-1,3-Dichloropropene	20.0	25.3		ug/L		127	70 - 130
Trichloroethene	20.0	20.1		ug/L		101	70 - 130
Trichlorofluoromethane	20.0	19.5		ug/L		97	70 - 130
Vinyl chloride	20.0	24.6		ug/L		123	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	87		70 - 130
1,2-Dichloroethane-d4 (Surr)	86		70 - 130
4-Bromofluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 490-587193/4

Matrix: Water

Analysis Batch: 587193

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	20.0	23.5		ug/L		117	70 - 130	1	20
1,1,1-Trichloroethane	20.0	18.5		ug/L		93	70 - 130	3	20
1,1,1,2,2-Tetrachloroethane	20.0	23.5		ug/L		118	70 - 130	10	20
1,1,1,2-Trichloroethane	20.0	19.3		ug/L		97	70 - 130	1	20
1,1-Dichloroethane	20.0	19.7		ug/L		99	70 - 130	0	20
1,1-Dichloroethane	20.0	19.8		ug/L		99	70 - 130	1	20
1,1-Dichloropropene	20.0	19.1		ug/L		96	70 - 130	0	20
1,2,3-Trichlorobenzene	20.0	21.4		ug/L		107	70 - 130	3	20
1,2,3-Trichloropropane	20.0	23.1		ug/L		115	70 - 130	4	20
1,2,4-Trichlorobenzene	20.0	22.8		ug/L		114	70 - 130	6	20
1,2,4-Trimethylbenzene	20.0	22.1		ug/L		110	70 - 130	3	20
1,2-Dibromo-3-Chloropropane	20.0	23.2		ug/L		116	70 - 130	5	20
1,2-Dichlorobenzene	20.0	22.3		ug/L		112	70 - 130	5	20
1,2-Dichloroethane	20.0	16.3		ug/L		81	70 - 130	2	20
1,2-Dichloropropane	20.0	20.9		ug/L		105	70 - 130	4	20
1,3,5-Trimethylbenzene	20.0	20.9		ug/L		105	70 - 130	0	20
1,3-Dichlorobenzene	20.0	22.1		ug/L		111	70 - 130	1	20
1,3-Dichloropropane	20.0	19.4		ug/L		97	70 - 130	5	20
1,4-Dichlorobenzene	20.0	19.8		ug/L		99	70 - 130	4	20
1,4-Dioxane	400	374		ug/L		94	70 - 130	8	20
2,2-Dichloropropane	20.0	18.7		ug/L		94	70 - 130	1	20
2-Butanone (MEK)	100	107		ug/L		107	70 - 130	1	20
2-Chlorotoluene	20.0	21.7		ug/L		108	70 - 130	2	20
2-Hexanone	100	107		ug/L		107	70 - 130	17	20
4-Chlorotoluene	20.0	21.2		ug/L		106	70 - 130	1	20
4-Isopropyltoluene	20.0	21.6		ug/L		108	70 - 130	2	20
4-Methyl-2-pentanone (MIBK)	100	109		ug/L		109	70 - 130	0	20
Acetone	100	120		ug/L		120	70 - 130	1	20
Benzene	20.0	21.0		ug/L		105	70 - 130	0	20

Eurofins TestAmerica, Nashville



# QC Sample Results

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-587193/4

Matrix: Water

Analysis Batch: 587193

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromobenzene	20.0	22.7		ug/L		113	70 - 130	4	20
Bromoform	20.0	31.7	*	ug/L		159	70 - 130	1	20
Bromomethane	20.0	23.9		ug/L		119	70 - 130	1	20
Carbon disulfide	20.0	22.7		ug/L		114	70 - 130	0	20
Carbon tetrachloride	20.0	19.3		ug/L		97	70 - 130	1	20
Chlorobenzene	20.0	21.1		ug/L		106	70 - 130	2	20
Chlorobromomethane	20.0	20.1		ug/L		101	70 - 130	2	20
Chlorodibromomethane	20.0	20.3		ug/L		101	70 - 130	2	20
Chloroethane	20.0	21.1		ug/L		105	70 - 130	2	20
Chloroform	20.0	18.8		ug/L		94	70 - 130	1	20
Chloromethane	20.0	26.7	*	ug/L		134	70 - 130	0	20
cis-1,2-Dichloroethene	20.0	19.0		ug/L		95	70 - 130	2	20
cis-1,3-Dichloropropene	20.0	21.5		ug/L		108	70 - 130	0	20
Dibromomethane	20.0	18.9		ug/L		95	70 - 130	5	20
Dichlorobromomethane	20.0	19.8		ug/L		99	70 - 130	1	20
Dichlorodifluoromethane	20.0	25.4		ug/L		127	70 - 130	1	20
Ethyl ether	20.0	22.3		ug/L		112	70 - 130	3	20
Ethylbenzene	20.0	21.9		ug/L		110	70 - 130	2	20
Ethylene Dibromide	20.0	22.3		ug/L		111	70 - 130	1	20
Hexachlorobutadiene	20.0	19.0		ug/L		95	70 - 130	5	20
Isopropyl ether	20.0	22.3		ug/L		111	70 - 130	1	20
Isopropylbenzene	20.0	22.2		ug/L		111	70 - 130	2	20
Methyl tert-butyl ether	20.0	19.7		ug/L		98	70 - 130	3	20
Methylene Chloride	20.0	20.5		ug/L		102	70 - 130	0	20
m-Xylene & p-Xylene	20.0	21.8		ug/L		109	70 - 130	0	20
Naphthalene	20.0	21.4		ug/L		107	70 - 130	6	20
n-Butylbenzene	20.0	21.2		ug/L		106	70 - 130	2	20
N-Propylbenzene	20.0	24.1		ug/L		120	70 - 130	4	20
o-Xylene	20.0	21.9		ug/L		109	70 - 130	2	20
sec-Butylbenzene	20.0	21.9		ug/L		109	70 - 130	3	20
Styrene	20.0	21.6		ug/L		108	70 - 130	2	20
Tert-amyl methyl ether	20.0	19.4		ug/L		97	70 - 130	3	20
Tert-butyl ethyl ether	20.0	20.4		ug/L		102	70 - 130	2	20
tert-Butylbenzene	20.0	21.4		ug/L		107	70 - 130	3	20
Tetrachloroethene	20.0	18.4		ug/L		92	70 - 130	0	20
Tetrahydrofuran	40.0	43.3		ug/L		108	70 - 130	3	20
Toluene	20.0	18.8		ug/L		94	70 - 130	1	20
trans-1,2-Dichloroethene	20.0	19.3		ug/L		97	70 - 130	0	20
trans-1,3-Dichloropropene	20.0	25.7		ug/L		128	70 - 130	1	20
Trichloroethene	20.0	20.6		ug/L		103	70 - 130	2	20
Trichlorofluoromethane	20.0	19.5		ug/L		97	70 - 130	0	20
Vinyl chloride	20.0	24.5		ug/L		122	70 - 130	1	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	86		70 - 130
1,2-Dichloroethane-d4 (Surr)	84		70 - 130
4-Bromofluorobenzene (Surr)	106		70 - 130

# QC Association Summary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

## GC/MS VOA

### Analysis Batch: 587193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-171844-1	SEN-1M-20190405-01	Total/NA	Water	8260C	
490-171844-2	SEN-1D-20190405-01	Total/NA	Water	8260C	
490-171844-3	SEN-2M-20190405-01	Total/NA	Water	8260C	
490-171844-4	SEN-2D-20190405-01	Total/NA	Water	8260C	
490-171844-5	SEN-3-20190405-01	Total/NA	Water	8260C	
MB 490-587193/6	Method Blank	Total/NA	Water	8260C	
LCS 490-587193/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 490-587193/4	Lab Control Sample Dup	Total/NA	Water	8260C	

# Lab Chronicle

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

**Client Sample ID: SEN-1M-20190405-01**

**Lab Sample ID: 490-171844-1**

Date Collected: 04/05/19 16:45

Matrix: Water

Date Received: 04/10/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	587193	04/11/19 00:46	JJR	TAL NSH

**Client Sample ID: SEN-1D-20190405-01**

**Lab Sample ID: 490-171844-2**

Date Collected: 04/05/19 16:38

Matrix: Water

Date Received: 04/10/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	587193	04/11/19 01:12	JJR	TAL NSH

**Client Sample ID: SEN-2M-20190405-01**

**Lab Sample ID: 490-171844-3**

Date Collected: 04/05/19 16:08

Matrix: Water

Date Received: 04/10/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	587193	04/11/19 01:39	JJR	TAL NSH

**Client Sample ID: SEN-2D-20190405-01**

**Lab Sample ID: 490-171844-4**

Date Collected: 04/05/19 16:20

Matrix: Water

Date Received: 04/10/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	587193	04/11/19 02:06	JJR	TAL NSH

**Client Sample ID: SEN-3-20190405-01**

**Lab Sample ID: 490-171844-5**

Date Collected: 04/05/19 15:52

Matrix: Water

Date Received: 04/10/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	587193	04/11/19 02:32	JJR	TAL NSH

**Laboratory References:**

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

## Accreditation/Certification Summary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

### Laboratory: Eurofins TestAmerica, Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	06-30-19
Arizona	State Program	9	AZ0473	05-05-19
Arkansas DEQ	State Program	6	88-0737	04-25-19
California	State Program	9	2938	06-30-19
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-19
Georgia	State Program	4	NA: NELAP & A2LA	12-31-19
Illinois	NELAP	5	200010	12-09-18 *
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-19
Kentucky (UST)	State Program	4	19	06-30-19
Kentucky (WW)	State Program	4	90038	12-31-19
Louisiana	NELAP	6	30613	06-30-19
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-20
Massachusetts	State Program	1	M-TN032	06-30-19
Minnesota	NELAP	5	047-999-345	12-31-19
Mississippi	State Program	4	N/A	06-30-19
Nevada	State Program	9	TN00032	07-31-19
New Hampshire	NELAP	1	2963	10-09-19
New Jersey	NELAP	2	TN965	06-30-19
New York	NELAP	2	11342	03-31-20
North Carolina (WW/SW)	State Program	4	387	12-31-19
North Dakota	State Program	8	R-146	06-30-19
Ohio VAP	State Program	5	CL0033	07-06-19
Oklahoma	State Program	6	9412	08-31-19
Oregon	NELAP	10	TN200001	04-26-19
Pennsylvania	NELAP	3	68-00585	07-31-19
Rhode Island	State Program	1	LAO00268	12-30-19
South Carolina	State Program	4	84009 (001)	02-28-19 *
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	04-10-20
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-19
Washington	State Program	10	C789	07-19-19
West Virginia DEP	State Program	3	219	02-28-19 *
Wisconsin	State Program	5	998020430	08-31-19
Wyoming (UST)	A2LA	8	453.07	12-31-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Nashville

## Accreditation/Certification Summary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

### Laboratory: Eurofins TestAmerica, Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-19
California	State Program	9	2931	04-01-19 *
Connecticut	State Program	1	PH-0568	09-30-20
Florida	NELAP	4	E87672	06-30-19
Georgia	State Program	4	10026 (NY)	03-31-20
Illinois	NELAP	5	200003	09-30-19
Iowa	State Program	7	374	02-28-19 *
Kansas	NELAP	7	E-10187	01-31-20
Kentucky (DW)	State Program	4	90029	12-31-19
Kentucky (UST)	State Program	4	30	03-31-19 *
Kentucky (WW)	State Program	4	90029	12-31-19
Louisiana	NELAP	6	02031	06-30-19
Maryland	State Program	3	294	03-31-20
Massachusetts	State Program	1	M-NY044	06-30-19
Michigan	State Program	5	9937	03-31-19 *
Minnesota	NELAP	5	036-999-337	12-31-19
New Hampshire	NELAP	1	2337	11-17-19
New Jersey	NELAP	2	NY455	06-30-19
New York	NELAP	2	10026	03-31-20
North Dakota	State Program	8	R-176	03-31-19 *
Oklahoma	State Program	6	9421	08-31-19
Oregon	NELAP	10	NY200003	06-09-19 *
Pennsylvania	NELAP	3	68-00281	07-31-19
Rhode Island	State Program	1	LAO00328	12-30-19
Tennessee	State Program	4	TN02970	03-31-20
Texas	NELAP	6	T104704412-15-6	07-31-19
USDA	Federal		P330-11-00386	02-06-21
Virginia	NELAP	3	460185	09-14-19
Washington	State Program	10	C784	02-10-20
Wisconsin	State Program	5	998310390	08-31-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	MA DEP	TAL NSH
5030B	Purge and Trap	SW846	TAL NSH

**Protocol References:**

MA DEP = Massachusetts Department Of Environmental Protection

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



# Sample Summary

Client: ERM-Northeast  
Project/Site: IDS Wayland

Job ID: 490-171844-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-171844-1	SEN-1M-20190405-01	Water	04/05/19 16:45	04/10/19 09:10
490-171844-2	SEN-1D-20190405-01	Water	04/05/19 16:38	04/10/19 09:10
490-171844-3	SEN-2M-20190405-01	Water	04/05/19 16:08	04/10/19 09:10
490-171844-4	SEN-2D-20190405-01	Water	04/05/19 16:20	04/10/19 09:10
490-171844-5	SEN-3-20190405-01	Water	04/05/19 15:52	04/10/19 09:10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



### COOLER RECEIPT FORM



490-171844 Chain of Custody

Cooler Received/Opened On 04-10-2019 @ 09:10

Time Samples Removed From Cooler 15:33 Time Samples Placed In Storage \_\_\_\_\_

1. Tracking # 4290 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 17960357 pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_

2. Temperature of rep. sample or temp blank when opened: 3.8 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: \_\_\_\_\_

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) KA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) 2h

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) 2.2

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) 2.1

I certify that I attached a label with the unique LIMS number to each container (initial) 2.2

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO..# \_\_\_\_\_



Client Contact: Larry Mastera / Clementine Dulieu  
 Project Manager: Larry Mastera, Clementine Dulieu  
 Tel/Fax: 508-498-5311  
 Regulatory Program:  DW  NPDES  RCRA  Other:

Site Contact: Julia Reciden  
 Lab Contact: Becky Mason  
 Date: \_\_\_\_\_  
 Carrier: \_\_\_\_\_  
 COC No: \_\_\_\_\_ of \_\_\_\_\_ COCs

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	522 - 1,4-Dioxane	8260MCP	Analysis Turnaround Time		Sample Specific Notes:
										CALENDAR DAYS	WORKING DAYS	
1 SEN-1M-20190405-01	4/5/19	16:45	G	W	3	N	N					
2 SEN-1D-20190405-01		16:38			3	N	N					
3 SEN-2M-20190405-01		16:08			3	N	N					
4 SEN-2D-20190405-01		16:20			3	N	N					
5 SEN-3-20190405-01		15:58		↓	3	N	N					

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other  
 Possible Hazard Identification: \_\_\_\_\_  
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.  
 Non-Hazard  Flammable  Skin Irritant  Unknown  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Special Instructions/QC Requirements & Comments:  
 Relinquished by: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_  
 Custody Seal No.: \_\_\_\_\_  
 Company: ERM  
 Company: TA-NAS  
 Company: \_\_\_\_\_  
 Date/Time: 4/9/19 11:18  
 Date/Time: 4/9/19 18:00  
 Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_  
 Received by: \_\_\_\_\_  
 Received in Laboratory by: \_\_\_\_\_  
 Cooler Temp. (°C): Obs'd: \_\_\_\_\_  
 Therm ID No.: \_\_\_\_\_  
 Date/Time: 4-5-19  
 Date/Time: 04.16 04/16/19  
 Date/Time: \_\_\_\_\_





## ANALYTICAL REPORT

Lab Number:	L1913499
Client:	Innovative Engineering Solutions, Inc. 37 Pearl Street #1 Braintree, MA 02184
ATTN:	Vicki Pariyar
Phone:	(508) 623-1224
Project Name:	RAYTHEON WAYLAND
Project Number:	RA-008
Report Date:	04/10/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1913499-01	DEP-21-20190404	WATER	WAYLAND, MA	04/04/19 07:55	04/04/19
L1913499-02	TRIP BLANKS	WATER	WAYLAND, MA	04/04/19 00:00	04/04/19

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**HOLD POLICY** - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

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**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**Case Narrative (continued)**

Volatile Organics

L1913499-02: The Trip Blank has a result for acetone present above the reporting limit. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 04/10/19

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**SAMPLE RESULTS**

Lab ID: L1913499-01  
 Client ID: DEP-21-20190404  
 Sample Location: WAYLAND, MA

Date Collected: 04/04/19 07:55  
 Date Received: 04/04/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260C  
 Analytical Date: 04/10/19 09:20  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1



Project Name: RAYTHEON WAYLAND

Lab Number: L1913499

Project Number: RA-008

Report Date: 04/10/19

## SAMPLE RESULTS

Lab ID: L1913499-01  
 Client ID: DEP-21-20190404  
 Sample Location: WAYLAND, MA

Date Collected: 04/04/19 07:55  
 Date Received: 04/04/19  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**SAMPLE RESULTS**

**Lab ID:** L1913499-01  
**Client ID:** DEP-21-20190404  
**Sample Location:** WAYLAND, MA

**Date Collected:** 04/04/19 07:55  
**Date Received:** 04/04/19  
**Field Prep:** Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	97		70-130

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**SAMPLE RESULTS**

Lab ID: L1913499-02  
 Client ID: TRIP BLANKS  
 Sample Location: WAYLAND, MA

Date Collected: 04/04/19 00:00  
 Date Received: 04/04/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260C  
 Analytical Date: 04/10/19 09:45  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**SAMPLE RESULTS**

Lab ID: L1913499-02  
 Client ID: TRIP BLANKS  
 Sample Location: WAYLAND, MA

Date Collected: 04/04/19 00:00  
 Date Received: 04/04/19  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	28		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**SAMPLE RESULTS**

Lab ID: L1913499-02  
 Client ID: TRIP BLANKS  
 Sample Location: WAYLAND, MA

Date Collected: 04/04/19 00:00  
 Date Received: 04/04/19  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	95		70-130

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 04/10/19 08:29  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1224997-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 04/10/19 08:29  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1224997-5					
1,2-Dichloroethene, Total	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrolein	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 04/10/19 08:29  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1224997-5					
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Halothane	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Methyl Acetate	ND		ug/l	10	--
Ethyl Acetate	ND		ug/l	10	--
Isopropyl Ether	ND		ug/l	2.0	--
Cyclohexane	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 04/10/19 08:29  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1224997-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	--
Methyl cyclohexane	ND		ug/l	10	--
p-Diethylbenzene	ND		ug/l	2.0	--
4-Ethyltoluene	ND		ug/l	2.0	--
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1913499

Project Number: RA-008

Report Date: 04/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1224997-3 WG1224997-4								
Methylene chloride	98		96		70-130	2		20
1,1-Dichloroethane	100		98		70-130	2		20
Chloroform	100		99		70-130	1		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	90		88		63-130	2		20
1,1,2-Trichloroethane	100		99		70-130	1		20
2-Chloroethylvinyl ether	40	Q	43	Q	70-130	7		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	100		100		75-130	0		25
Trichlorofluoromethane	96		91		62-150	5		20
1,2-Dichloroethane	93		91		70-130	2		20
1,1,1-Trichloroethane	100		98		67-130	2		20
Bromodichloromethane	100		98		67-130	2		20
trans-1,3-Dichloropropene	91		89		70-130	2		20
cis-1,3-Dichloropropene	93		91		70-130	2		20
1,1-Dichloropropene	99		96		70-130	3		20
Bromoform	95		91		54-136	4		20
1,1,2,2-Tetrachloroethane	100		97		67-130	3		20
Benzene	100		100		70-130	0		25
Toluene	100		100		70-130	0		25
Ethylbenzene	100		100		70-130	0		20
Chloromethane	79		79		64-130	0		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1913499

Project Number: RA-008

Report Date: 04/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1224997-3 WG1224997-4								
Bromomethane	84		79		39-139	6		20
Vinyl chloride	92		86		55-140	7		20
Chloroethane	89		89		55-138	0		20
1,1-Dichloroethene	100		96		61-145	4		25
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	100		96		70-130	4		25
1,2-Dichlorobenzene	100		98		70-130	2		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	93		90		63-130	3		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	100		98		70-130	2		20
Dibromomethane	98		94		70-130	4		20
1,4-Dichlorobutane	100		96		70-130	4		20
1,2,3-Trichloropropane	95		94		64-130	1		20
Styrene	105		100		70-130	5		20
Dichlorodifluoromethane	88		83		36-147	6		20
Acetone	98		94		58-148	4		20
Carbon disulfide	100		98		51-130	2		20
2-Butanone	92		91		63-138	1		20
Vinyl acetate	96		92		70-130	4		20
4-Methyl-2-pentanone	82		82		59-130	0		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1913499

Project Number: RA-008

Report Date: 04/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1224997-3 WG1224997-4								
2-Hexanone	78		76		57-130	3		20
Ethyl methacrylate	86		84		70-130	2		20
Acrolein	95		88		70-130	8		20
Acrylonitrile	100		96		70-130	4		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	92		89		58-130	3		20
2,2-Dichloropropane	110		110		63-133	0		20
1,2-Dibromoethane	100		98		70-130	2		20
1,3-Dichloropropane	99		98		70-130	1		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	110		100		53-136	10		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	100		100		70-130	0		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	88		84		41-144	5		20
Hexachlorobutadiene	100		99		63-130	1		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	78		74		70-130	5		20
n-Propylbenzene	110		100		69-130	10		20
1,2,3-Trichlorobenzene	83		78		70-130	6		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1913499

Project Number: RA-008

Report Date: 04/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1224997-3 WG1224997-4								
1,2,4-Trichlorobenzene	90		86		70-130	5		20
1,3,5-Trimethylbenzene	110		100		64-130	10		20
1,3,5-Trichlorobenzene	100		99		70-130	1		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20
trans-1,4-Dichloro-2-butene	79		75		70-130	5		20
Halothane	100		100		70-130	0		20
Ethyl ether	82		84		59-134	2		20
Methyl Acetate	92		91		70-130	1		20
Ethyl Acetate	84		79		70-130	6		20
Isopropyl Ether	95		94		70-130	1		20
Cyclohexane	100		95		70-130	5		20
Tert-Butyl Alcohol	106		96		70-130	10		20
Ethyl-Tert-Butyl-Ether	94		92		70-130	2		20
Tertiary-Amyl Methyl Ether	96		93		66-130	3		20
1,4-Dioxane	78		72		56-162	8		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	97		93		70-130	4		20
Methyl cyclohexane	100		95		70-130	5		20
p-Diethylbenzene	100		100		70-130	0		20
4-Ethyltoluene	110		100		70-130	10		20
1,2,4,5-Tetramethylbenzene	99		97		70-130	2		20

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: RAYTHEON WAYLAND

Project Number: RA-008

Lab Number: L1913499

Report Date: 04/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1224997-3 WG1224997-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		95		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	100		99		70-130

Project Name: RAYTHEON WAYLAND

Project Number: RA-008

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information****Cooler**                      **Custody Seal**

A                                      Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1913499-01A	Vial HCl preserved	A	NA		3.1	Y	Absent		8260(14)
L1913499-01B	Vial HCl preserved	A	NA		3.1	Y	Absent		8260(14)
L1913499-01C	Vial HCl preserved	A	NA		3.1	Y	Absent		8260(14)
L1913499-02A	Vial HCl preserved	A	NA		3.1	Y	Absent		8260(14)
L1913499-02B	Vial HCl preserved	A	NA		3.1	Y	Absent		8260(14)

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

Report Format: Data Usability Report





**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedances are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1913499  
**Report Date:** 04/10/19

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624/624.1:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**EPA 6860:** SCM: Perchlorate

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

### Mansfield Facility

**SM 2540D:** TSS

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

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The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

**EPA 522.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# CHAIN OF CUSTODY

PAGE 1 OF 1

8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-898-9220

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300

Date Rec'd in Lab: 4/4/19

ALPHA Job #: U913499

## Client Information

Client: Innovation Engineering Solutions

Address: 37 Pearl St #12  
Burlington MA 02184

Phone: 508-668-0033

Email: Viperiana@DESJournals.com

## Project Information

Project Name: Rancho Wayland

Project Location: Wayland MA

Project #: RA-008

Project Manager: Vicki Periyar

ALPHA Quote #:

## Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: 5 days  
4/11/19

## Report Information - Data Deliverables

ADEX  EMAIL

## Billing Information

Same as Client info PO #:

## Regulatory Requirements & Project Information Requirements

Yes  No MA MCP Analytical Methods       Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program Criteria CW-3

<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>ANALYSIS</b></p> <p>VOC: <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 324.2</p> <p>SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH</p> <p>METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> MCP 15 <input type="checkbox"/> RCP 14 <input type="checkbox"/> RCP 15</p> <p>EPH: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PPH13</p> <p>VPH: <input type="checkbox"/> Ranges &amp; Targets <input type="checkbox"/> Ranges Only <input type="checkbox"/> Ranges Only</p> <p>PCB <input type="checkbox"/> PEST</p> <p>TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint</p>	<p><b>SAMPLE INFO</b></p> <p>Filtration  <input type="checkbox"/> Field  <input type="checkbox"/> Lab to do</p> <p>Preservation  <input type="checkbox"/> Lab to do</p>	<p>TOTAL # BOTTLES</p>
--	---	------------------------

## Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials											Sample Comments	TOTAL # BOTTLES
		Date	Time														
13499-01	DEP-21-2019 0404	4/4/19	0755	CW	DP	X											3
-02	Trip Blanks	-	-	-	-	X											2
	Temp Blank	-	-	-	-												1

- | Container Type  | Preservative     |
|-----------------|------------------|
| P= Plastic      | A= None          |
| A= Amber glass  | B= HCl           |
| V= Vial         | C= HNO3          |
| G= Glass        | D= H2SO4         |
| B= Bacteria cup | E= NaOH          |
| C= Cube         | F= MeOH          |
| O= Other        | G= NaHSO4        |
| E= Encore       | H= Na2S2O8       |
| D= BOD Bottle   | I= Ascorbic Acid |
|                 | J= NH4Cl         |
|                 | K= Zn Acetate    |
|                 | O= Other         |

Container Type	V
Preservative	B

Relinquished By:	Date/Time	Received By:	Date/Time
<u>[Signature]</u>	4/4/19 1200	<u>[Signature]</u>	4/4/19 12:00
<u>[Signature]</u>	4/9/19	<u>[Signature]</u>	4/11/19 12:11
<u>[Signature]</u>	4/11/19 19:10	<u>[Signature]</u>	4/4/19 19:19

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.  
FORM NO: 01-01 (rev. 12-Mar-2012)